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NOTES AND LITERATURE

DIPTERA FROM THE SEYCHELLES.—An important work has just come to hand¹ in which Mr. C. G. Lamb describes the muscoid flies of several groups, collected in 1905 in the Seychelles and other islands of the Indian Ocean by the expedition under the leadership of Mr. J. Stanley Gardiner. Considering the remoteness of the regions explored, and the total lack of general interest in the taxonomy of these small Diptera, one would not at first see any reason for calling special attention to this paper. When, however, we think of the wonderful results attained by Morgan and those working with him through the intensive study of *Drosophila*, Mr. Lamb's work, dealing in part with this very group, gains new significance and suggests many strains of thought. Some years ago, after looking at a number of the strange *Drosophila* mutants in Professor Morgan's laboratory, I raised the obvious question: "How do you know that all this has anything to do with the evolution of species?", and Professor Morgan replied that he did not know it. The real answer to my question must be found by investigating the allied species, to see whether they do in fact differ in ways at all paralleled by Morgan's mutants, or likely to have arisen in similar fashion. The important cytological paper by Metz, just published, represents one way of attacking this problem; the taxonomic results of Lamb, based on twenty species, afford us another.

At the outset, we are struck by the fact that the Seychelles *Drosophila* species have been modified in a great variety of different ways, in several cases so remarkably that Lamb hesitates whether to base new generic or subgeneric names upon them. There is nothing like orthogenesis, apparently. Here is a list of some of the more noticeable modifications:

1. Costa extending to third vein.
2. Remarkably constricted waist and short wings. (Compare Morgan's short winged forms.)
3. A remarkable slit on the costa, the end provided with spines and bristles.
4. Remarkable transverse or oblique eyes.
5. Remarkable spines on front tarsus.

¹ *Trans. Linnean Soc. London, Zoology*, Vol. XVI, Part 4, July, 1914.

6. Curious curled hairs on front legs.
7. Marmorated thorax.
8. Entirely black, except brownish antennæ and lighter face.

All the species are new except two, one of these being the *D. ampelophila* of Morgan's experiments, the prior name for which is *D. melanogaster* Meigen. One of the new species, *D. similis*, is based on males differing from *D. melanogaster* in lacking the large combs on the front legs, having instead only minute combs which require a high magnification to be seen. In other respects the flies are almost exactly as in *melanogaster*, and in the female sex it is practically impossible to distinguish between the species. There are in addition five females resembling *melanogaster* and *similis*, but differing in a detail of the venation. May we not suppose that *D. melanogaster* was introduced into the Seychelles by man and that *D. similis* and the females (left unnamed) with peculiar venation have arisen from it by mutation since that time?

T. D. A. COCKERELL

STERILITY IN A SPECIES CROSS

PROFESSOR J. A. DETLEFSEN, of the University of Illinois, has recently published an interesting paper entitled "Genetic Studies on a Cavy Species Cross."¹ Several wild cavies from Brazil (*Cavia rufescens*) were crossed with domestic guinea-pigs (*C. porcellus*) and a study of the hybrid offspring was continued for seven generations. The experiments were begun in 1903 by Professor Castle who turned them over in 1909 to Professor Detlefsen. They were carried on at Harvard and at the Bussey Institution. The paper is divided into three parts; the first two treat respectively of the genetics of color and coat factors, and growth and morphological characters; the third and most important deals with a study of the sterility of hybrids.

Cavia rufescens differs from the guinea-pig in several characters. In size it is about half as large as the guinea-pig. It has an agouti (gray) coat, but the animal has a darker appearance than tame agouti guinea-pigs, owing to the yellow bands in the ticked hair being much reduced. The belly of the wild species varies from a light yellow to a slightly ticked condition. In agouti guinea-pigs the belly hair is usually yellow with a dark base, but never ticked.

Of the wild stock, only males were used in crossing, on account of the difference in size. All F₁ males from such crosses were

¹ Carnegie Inst. Publication No. 205, 1914.